

## **REMARKS / ARGUMENTS:**

No claims have been amended.

Claims 1 – 40 remain in the case.

No new matter has been added.

Rejection of claims 1, 2, 12 - 24, 30, 32, 34 - 36 and 38 - 40 under 35 USC §102(b) as anticipated by U.S. Patent No. 5,849,320 to Turnblad *et al.*

It is respectfully requested that the rejection of claims 1, 2, 12 - 24, 30, 32, 34 - 36 and 38 - 40 under 35 USC §102(b) as anticipated by U.S. Patent No. 5,849,320 to Turnblad *et al.* be reconsidered in view of the reasons described below and be withdrawn.

In the Response dated March 10, 2003, the Applicant asserted, among other things, that the Turnblad *et al.* patent does not teach the step of "applying to the treated seed a film comprising an emulsion of a polymer in a liquid in which both the agricultural active ingredient and the polymer have low levels of solubility", because it does not teach that the polymer that is used as the "overcoating" -- which is the coating cited in the Action as being equivalent to the claimed coating -- must have a low level of solubility in the liquid in which it is suspended, or that it must be applied in the form of an emulsion, as required in every one of the presently rejected claims. It is now further asserted by Applicant that the Turnblad *et al.* patent does not teach that the emulsion liquid is one in which the agricultural active has a low level of solubility.

In the Action dated May 28, 2003, the Office maintained this rejection and argued that the Turnblad *et al.* patent discloses "polyvinylpyrrolidone" at col. 6, lines 30 – 31, and "imidacloprid" at col. 3, line 42, which Applicant discloses as having low solubility. It was further stated that these molecules were considered to have low solubility or insolubility in the composition of Turnblad *et al.*

It is respectfully maintained that these disclosures still do not teach or suggest the features of the present claims, namely the fact that the polymer coating must be applied to a treated seed in the form of an emulsion of a polymer in a liquid in which

both the active and the polymer have low levels of solubility. The reasons are as follows:

At col. 6, lines 16 – 32, where the Turnblad *et al.* reference describes overcoating, there is no guidance that the overcoating material is a polymer (waxes and oils can be used); there is no guidance that the overcoating material be applied in the form of an emulsion (the closest teaching appears to be that it can be a “suspension in a liquid adhesive”); but most importantly, there is no guidance as to the properties of the liquid in which the material is suspended. The Office cites polyvinylpyrrolidone as being an example of a polymer having low solubility, but apparently assumes that the liquid in which the polymer is suspended is one in which its solubility is low, because Turnblad *et al.* provides no guidance as to the identity or properties of the liquid.

At col. 3, lines 34 - 44, of the Turnblad *et al.* patent, where imidacloprid is disclosed as a suitable insecticide, there is no mention at all of its relationship with an overcoating, should one be applied, and, in particular, there is no mention of its solubility relationship with the liquid of a polymer emulsion. In order to arrive at the presently claimed invention, one would have to assume that when the active is imidacloprid, the polymer that is used for overcoating is applied in emulsion in a liquid in which imidacloprid has low solubility. However, this relationship is not taught or suggested by Turnblad *et al.*

It is respectfully maintained, therefore, that the Turnblad *et al.* reference does not teach or suggest each and every feature of the present claims, and, therefore, cannot be found to anticipate the claims. Accordingly, it is respectfully requested that the rejection be reconsidered and be withdrawn.

Rejection of claims 3 - 6 and 37 under 35 USC §103(a) as being obvious over U.S. Patent No. 5,849,320 to Turnblad *et al.* in view of GB 2 110 518 A to Tunde *et al.*

It is respectfully requested that the rejection of claims 3 - 6 and 37 under 35 USC §103(a) as being obvious over U.S. Patent No. 5,849,320 to Turnblad *et al.* in view of GB 2 110 518 A to Tunde *et al.* be reconsidered in view of the reasons described below and be withdrawn.

In the Response dated March 10, 2003, the Applicant asserted that Turnblad *et al.*

do not teach or suggest the claimed feature of "applying to the treated seed a film comprising an emulsion of a polymer in a liquid in which both the agricultural active ingredient and the polymer have low levels of solubility", and it was further maintained that the Tunde *et al.* reference did not add this teaching. Tunde *et al.*, in fact, was found to disclose polymers that were "reversibly water-soluble animal and plant proteins...", which form "... mixtures from the solution of which a water-insoluble ... coating is formed by drying."

As to the obviousness of the feature of claims 3 – 6 and 37 that describes the amount of the film and the concentration of the polymer in the film upon application, it is maintained that the Tunde *et al.* publication fails to teach or suggest this combination of features. The reason is that, although Tunde *et al.* teach that the protein in its coating can be present at a level of from 10% to 99% by weight, there is no apparent teaching as to the amount of the coating film that is to be applied to the seed. Moreover, there is no teaching that it is the combination of the polymer concentration and the amount of the coating per unit of seed weight that is important.

In Examples 6 and 11, the only examples that show seed treatment, none of the formulations or methods appear to show the presently claimed compositions or methods. The coating composition of Example 6 is applied to maize seeds that have not been previously treated with an active, as is required in claims 3 – 6 and 37. Likewise, in Example 11, the coating compositions appear to be applied to peas, beans and maize seeds that have not been treated with an active. Rather, an active, if one is used, is present in the coating compositions.

It is believed that even if a skilled practitioner would have been motivated to modify the method of Turnblad *et al.* according to guidance provided by Tunde *et al.*, he would not have arrived at the claimed invention, because neither Turnblad *et al.*, nor Tunde *et al.* would provide guidance to apply a polymer emulsion film to a seed that had been coated with an active with a particular amount of the film, and with the film having a particular polymer concentration, as is required by each of claims 3 – 6 and 37.

Rejection of claim 7 under 35 USC §103(a) as being obvious over U.S. Patent No. 5,849,320 to Turnblad *et al.* in view of GB 2 110 518 A to Tunde *et al.* and further in

view of U.S. Patent No. 4,337,330 to Robeson.

It is respectfully requested that the rejection of claim 7 under 35 USC §103(a) as being obvious over U.S. Patent No. 5,849,320 to Turnblad *et al.* in view of GB 2 110 518 A to Tunde *et al.* and further in view of U.S. Patent No. 4,337,330 to Robeson be reconsidered in view of the reasons described below and be withdrawn.

Claim 7 ultimately depends from claim 1, and further describes coatings in which selection of the glass transition temperature of the polymer coating is used to control the release rate of the agricultural active.

The Office has withdrawn the rejection of claims 8 – 11 under this ground, but has maintained its rejection of claim 7 over a combination of Turnblad *et al.* and Tunde *et al.*, as teaching the elements of the parent claims, as modified in view of Robeson to provide a coating that falls within the claimed coatings.

As mentioned in the Response of March 10, 2003, the Office admits that neither Turnblad *et al.*, nor Tunde *et al.* teach the feature that the polymer coating have a particular glass transition temperature ( $T_g$ ), but cited Robeson as teaching that limitation. Robeson, however, appears only to mention the  $T_g$  of its polymer blends in passing, and does not appear to teach that the  $T_g$  of a coating formed from the blend can be useful as a parameter for providing a coating which retards the release rate of the agricultural active ingredient by a desired amount, as required by the claims. In its claims, in fact, Tunde *et al.* describes its various polymer blends in terms of composition, not according to  $T_g$ .

Therefore, it is maintained that Turnblad *et al.*, alone or in combination with Tunde *et al.*, or Robeson, does not teach or suggest the features of the parent claims, as discussed above. It is also maintained that Robeson does not add the teaching of the feature requiring the provision of a polymer coating having a  $T_g$  within a pre-selected range. Accordingly, it is respectfully requested that the present rejection be reconsidered and be withdrawn.

Rejection of claims 25 - 29, 31 and 33 under 35 USC §103(a) as being obvious over U.S. Patent No. 5,849,320 to Turnblad *et al.*

The request that was asserted in the Response dated March 10, 2003, that the

rejection of claims 25 - 29, 31 and 33 under 35 USC §103(a) as being obvious over U.S. Patent No. 5,849,320 to Turnblad *et al.* be reconsidered in view of the reasons described below and be withdrawn, is respectfully reasserted in view of the reasons discussed above.

Notice regarding the allowability of claims 8 – 11 if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

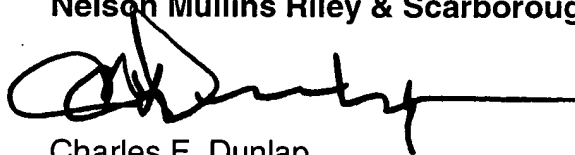
The notice regarding the allowability of claims 8 – 11 if rewritten in independent form including all of the limitations of the base claim and any intervening claims is noted with appreciation.

Request for reconsideration:

It is respectfully requested that the claims be reconsidered after consideration of the reasons for allowability that are discussed above and be found to be allowable. If one or more of the claims are found to not be allowable, a telephone call to the undersigned would be appreciated in order to resolve any remaining issues.

Respectfully submitted,  
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